

C L A I M S

1. A hardware device for performing a task in an installation, the device having means for generating and reporting status data to a computer indicative of a
5 status of the device or the installation, characterized by a memory having stored therein a stylesheet for creating a pictorial representation of the device, whereby the computer can access the stylesheet as well as the status data from the device, to create the pictorial representation and to populate the pictorial representation with the status data.
- 10 2. A combination of a hardware device according to claim 1 and a computer for receiving the stylesheet from the hardware device to enable the computer to create the pictorial representation of the hardware device populated with the status data.
- 15 3. A combination according to claim 2, wherein the computer is arranged as an Internet/Intranet web server for delivering the pictorial representation to a remote computer connected thereto, for display at the remote computer.
- 20 4. A computer for receiving a stylesheet from a hardware device according to claim 1 to create the pictorial representation of the hardware device populated with the status data, the computer having means for analysing the status data to create derived status data, and means for further populating the stylesheet with the derived status data.
- 25 5. A computer according to claim 4, wherein the means for analysing the status data comprises a data trend analysis software module.
- 30 6. A computer according to claim 4 or 5, further comprising means for receiving status data from a plurality of hardware devices communicating by means of computers having different Internet Protocol addresses within the installation, wherein the means for analysing performs analysis by comparison of data from different hardware devices.

7. A computer according to claim 4, 5 or 6, further comprising means for modifying the stylesheet to accommodate the derived status data.

5 8. A computer according to any one of the preceding claims, wherein the status data is in extensible mark-up language (XML) and the stylesheet is in extensible stylesheet language (XSL).

9. A manufacturing or service installation comprising a plurality of hardware devices according to claim 1, each having sensing means for sensing an
10 operating parameter and for reporting status data to a computer indicative of a status of the installation, and a computer connected to the hardware devices for receiving and storing stylesheets and status data from the hardware devices and creating a composite pictorial representation of the plurality of hardware devices and populating the composite pictorial representation with the status data.

15

10. A server for connecting to equipment to be monitored, the server having an internet protocol (IP) address and comprising a database for receiving and storing data from the equipment, and means for communicating, to a remote application addressing the server by its IP address, data representative of a current status of the
20 equipment and a stylesheet representative of the equipment independent of status, whereby, at the remote application, a pictorial representation of the equipment can be generated from the stylesheet and the pictorial representation can be populated with data representing the current status of the equipment.

25 11. A server according to claim 10 further comprising an active server page file that interrogates the database to create a dynamic file that is accessible from the remote application.

30 12. A computer for connecting to the server of claim 10, the computer comprising:

means for accessing such a server;

means for receiving therefrom and storing a stylesheet representation of the equipment defining a web file and status data, representative of a current status of the equipment, for populating that file; and

5 means for communicating the file, populated with the status data, to a remote computer.

13. A computer according to claim 12, wherein the means for receiving are arranged also to receive derived status data derived on the server by analysis of the status data received from the equipment and means for added the derived status data to
10 the status data displaying the derived status data and the status data together using the same stylesheet.

14. A computer according to claim 13, further comprising means for locally modifying the stylesheet to accommodate the status data and the derived status data.
15

15. A data carrier having stored thereon instructions and data for loading into a computer associated with a hardware device for performing a task in an installation, the instructions and data including a stylesheet representation of the hardware device, which, when loaded into the computer, enable the computer to generate and report
20 status data to a remote computer indicative of a status of the device or the installation, and to generate a pictorial representation of the device, whereby the stylesheet as well as the status data can be accessed from the hardware device and its associated computer, to create the pictorial representation at the remote computer and to populate the pictorial representation with the status data at that remote computer.
25

16. A method of operation of a manufacturing or service installation comprising:

providing at least one hardware device for performing a task in the installation, the device having means for generating and reporting status data to a computer
30 indicative of a status of the device or the installation, characterized by a memory having stored therein a stylesheet for creating a pictorial representation of the device;

sensing an operating parameter in the hardware device and reporting status data to a computer indicative of a status of the device,

accessing the stylesheet as well as the status data by the computer from the device;

- 5 creating a pictorial representation of the device; and
populating the pictorial representation with the status data using the stylesheet.

17. A method according to claim 16, further comprising receiving and storing a plurality of stylesheets from a plurality of hardware devices, creating a
10 composite pictorial representation of the plurality of hardware devices and populating the composite pictorial representation with the status data.